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The Impact of Dividend Policy on Share Prices Volatility – Empirical Evidence From The GCC Stock Exchanges

أثر سياسية توزيع الارباح على اسعار الاسهم – دليل عملي من اسواق مجلس التعاون الخليجي

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Program : Master in Banking and Finance

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Dedication

This thesis is dedicated to my parents who have given me the opportunity of an education from the best institutions and support throughout my life.

I dedicate this thesis to my brothers and sisters for their supports and helps

I dedicate this thesis to my friends for their encouragement and assistance

Acknowledgment

I would like to express the deepest appreciation to my committee chair, Professor Mona Mamdouh Al-Mawalla, who has the attitude and the substance of a genius : she continually and convincingly conveyed a spirit of adventure in regard to research, and an excitement in regard to teaching. Without her guidance and persistent help this dissertation would not have been possible.

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Abstract

Al-Tamimi, Maher Ahmad. The Impact of Dividend Policy on Share Prices Volatility : Empirical Evidence from The GCC Stock Exchanges. Department of Banking and Finance, Yarmouk University, 2013 (Supervisor : Prof. Mona Mamdouh Al-Mwalla).

The study aimed at investigating the impact of dividend policy on share prices volatility in the Gulf Cooperation Council stock exchanges. A sample consists of 64 financial and non financial firms that are listed at the GCC stock exchanges during 2003 -2012. To achieve the study objective, the researcher formulates the main hypotheses, which state that a significant relationship exists between both (dividend payout ratio, dividend yield) and share price volatility. Descriptive analysis, Correlation analysis and panel of multiple least square regression methods have been utilized to test the hypotheses. The results show a significant relationship between the dividend yield and share price volatility. However, when dividend payout ratio has been used as proxy for dividend policy, the results show that there is no significant between dividend payout ratio and share prices volatility. On the basis of the results, the study recommends that managers of corporation in GCC should pay attention to dividend policy in order to help stabilizing stock price.

Key words: Dividend Policy, GCC Stock Exchanges, Share Prices Volatility.

الملخص

التميمي، ماهر أحمد. اثر سياسية توزيع الارباح على تذبذب اسعار الاسهم : دليل عملي من اسواق مجلس التعاون الخليجي. رسالة ماجستير بقسم العلوم المالية والمصرفية، جامعة اليرموك 2013. (المشرف الاستاذ الدكتور منى ممدوح المولا).

تهدف هذه الدراسة الى اختبار اثر سياسية توزيع الارباح على تذبذب اسعار الاسهم ، في الشركات المدرجة في اسواق مجلس التعاون الخليجي لعينة مكونة من 64 شركة مالية وغير مالية خلال الفترة 2003-2012. استخدمت الدراسة نموذجين وهما، معادلة خط الانحدار الذي يقيس اثر سياسية توزيع الارباح على اسعار الاسهم ونموذج تم تطويره لقياس اثر سياسية توزيع الارباح على تذبذب اسعار الاسهم. وقد تم اجراء التحليل الاحصائي باستخدام اسلوب تحليل القطاع المستعرض و السلاسل الزمنية.

واظهرت الدراسة الى ان هنالك علاقة عكسية بين عائد السهم و تذبذب اسعار الاسهم، واظهرت ايضا انه لا توجد علاقة ذات دلالة احصائية ما بين نصيب السهم من الارباح وتذبذب اسعار الاسهم. وبالتالي توصى الدراسة بأنه يجب على مدراء الشركات في شركات دول مجلس التعاون الخليجي زيادة الاهتمام بسياسية توزيع الارباح حتى يكون هنالك استقرار في سعر السهم.

الكلمات المفتاحية: سياسية توزيع الارباح، اسواق مجلس التعاون الخليجي، تذبذب اسعار الاسهم.

Chapter One

Introduction

1.1 Preface

The Dividend policy is considered one of the main financial decisions in The Modern Corporate Finance, which has an effect on value of the firm " market stock price ".

The Dividend policy is a controversial issue that hasn't been solved yet, Brealey and Myers (2006). Many developed theories on the relationship between divided policy and firms' value rely on many unrealistic assumptions. The objective of a corporation in modern corporate finance is to maximize the shareholders' wealth, which is measured by stock price, and to control Agency problem.

Modigliani and Miller theory (1961) demonstrated that the firm value is unaffected by the dividend policy in the absence of taxes and when there is no bankruptcy cost, no transaction cost, no default risk, no asymmetric information, the firm and investor borrow at the same rate. Therefore , the dividend policy is irrelevant to the firm value and stockholders' wealth, so the firm value is still unaffected regardless of whether the firm retained the income or distributed the income in the form of dividends. The firm value therefore is measured by it's power of earnings and the investment decisions.

On the other hand, many researchers have argued for MM theory (1961) that is based on the perfect capital market, which is not existing in the real world, so a

theory was developed in 1963 to illustrate that dividends used to send a signal to outsiders about the firm's performance and earnings reduces asymmetric information problem. Basically, managers and shareholders have a different information about the firm. Otherwise, according to Bhattacharya (1979), the dividend policy is too costly to send a signal of the firms' financial position.

The Bird-In-The-Hand-Theory is considered, the first that has argued against the Irrelevance theory, which illustrated that investors prefer the dividends over capital gains. This is because dividend is less risky than capital gains in the future, Gordon and Myron (1959). Investors therefore can reinvest dividends in securities that have the same risk.

The dividend policy is one of the most important issue in the modern corporate finance. Therefore, it is an important policy for the firm and stock holders, consumers, and the financial market, because it has an effect on stock prices as increasing dividends may lead to increase in stock price and vice versa (Pettit 1972). The Modern corporate finance is based on the notion that managers of a corporation should always set shareholders' wealth maximization to be their main objective. This objective can be realized by locating profitable investment opportunity and through finding the right mix of financing (debt, equity) which minimize its cost. The retained earnings are considered as an internal source of

funding and are cheaper than new issues (Mayers and Majluf, 1984 and Ross, 1977), which the firm utilizes to reinvest for expansion and growing in the future. This has therefore its effect on dividend policy and the amount of dividends to be distributed to shareholders.

Jensen and Meckling (1976) showed that the Agency problem arises from the separation of ownership between the managers and shareholders' wealth, where the manager makes the decision for self-interests rather than for the firm main goals.

Using other sources of fund include debt and a new issue offering, which is referred to as "capital structure decision". Theories on the ideal mix of resources has attracted many researcher interest.

The capital structure is defined as the firm uses the mix of debt and equity to finance its assets, where the ideal mix has an effects on the firm value in that an increase of one dollar in debt will lead to a decrease of one dollar in equity (Brealey and Myers, 1996).

Modigliani and Miller 1958 stated that the capital structure decision is irrelevant to the value of the firm according to the first proposition, which was then based on a number of assumptions. However, after relaxing few assumptions the second proposition indicated that the equity and debt are irrelevant to the firms' financial status, Modigliani and Miller (1963).

Myers and Majluf (1984) presented their justification for the existence of different capital structures among firms and how to select from funding alternatives. According to many researchers, the manager prefers to use the retained earnings as source of internal fund, which is considered the first source of funding. In the case of debt financing, value maximization is achieved faster. Moreover, the new issuing of common stocks or preferred stocks is considered the most expensive cost amongst the sources of funding. Arranging financing in such a way was referred to as “The Pecking Order theory”.

The important of dividend policy and the use of retained earnings as a main source of funding that help lower the excessive funding using debt prevails during the financial crisis of 2007, as many researcher indicated that the use of excessive debt was one of the main reason among other reason that led to bankruptcy of large corporation. It has been documented that the financial crisis has affected the financial markets all over the world, Senbet and Gande (2009).

1.2 **The Study Problem**

The Gulf Cooperation Council (GCC) stock exchange includes different stock exchanges (Saudi Arabia, United Arab Emirates, Kuwait, Bahrain, Qatar and Oman) that were growing for more than 10 years, as Hassan and Al Sultan (2003). The GCC stock exchanges include firms that have a high market value and a number of researcher has indicated that most of these markets enjoy semi strong efficiency, Al Janabi and Hatemi (2010). Taking into consideration the dividend policy, the current study is an attempt in this regard to investigate the impact of the dividend policy on the share prices volatility in the GCC stock exchanges.

The GCC stock exchange is considered one of the largest among Arab stock exchanges, with a high liquidity that makes the investors feel confident and maybe are indifferent about dividend distribution. Therefore, studying the linkage between dividend policy and share price volatility can give an insight of investors perception about dividend policy. The study, therefore, can ask the following questions :

1. Is there an effect of dividend payout ratio on the stock price volatility ?
2. Is there an effect of operating income volatility on the stock price volatility ?
3. Is there an effect of Growth in Assets on the stock price volatility ?

4. Is there an effect of Firm size on the stock price volatility ?
5. Is there an effect of leverage on the stock price volatility ?
6. Is there an effect of dividend yield on the stock price volatility ?

1.3 The study Importance

The importance of this study stems from the power of the GCC stock exchanges, which have a high liquidity with respect to trading volume and the large market capitalization of firms that are listed at these market, adding to that the high liquidity available with investors and these markets also enjoy high level of operating activity though they are still considered as emerging markets. Hence studying the effect of dividend policy on share prices volatility is expected to provide theoretical and practical insight into issues related to financing and to dividend policy decisions.

This current research expects to contribute to the existing literature that investigated the relationship between dividend policy and share prices volatility and will add value in terms of examining this relationship in the whole GCC during the period (2003-2012).

Up to researcher knowledge, no prior studies have investigated the relationship between dividend policy and stock price volatility in the GCC Stock Exchanges

especially on financial firms. For this reason, this study will examine the relationship between the dividend policy and share price volatility in the GCC stock exchanges.

1.4 Study Objectives

The main objective of this study is to investigate the relationship between the dividends policy and its effects on share prices volatility in the GCC stock exchanges. Other objectives include :

- Examining the determinants of dividend policy.
- Provide a number of recommendations to managers in the GCC countries with regard to dividend policy formulations.
- Examine if international financial crisis has an impact on dividend policy in the GCC stock exchange.

1.5 Data and Methodology

1.5.1 Data and Sample

The Data that have been used is considered as secondary data source, which have been collected from quarterly and annually financial reports for all financial and non financial firms that are listed at the GCC stock exchanges during the period 2003-2012.

1.5.2 The Hypotheses of the Study

Relying on literature review, the following main hypotheses are developed **:**

H1: Dividend payout ratio has a statistical significant relationship with stock price volatility.

H2: Dividend yield has a statistical significant relationship with stock price volatility.

Sub Hypotheses

H1A: Operating income volatility has a statistical significant relationship with stock price volatility.

H2A: Growth in Assets has a statistical significant relationship with stock price volatility.

H3A: Firm size has a statistical significant relationship with stock price volatility.

H4A: Debt ratio has a statistical significant relationship with stock price volatility.

1.6 Methodology of The Study

To test the Hypotheses that have been formulated according to previous studies. The following model is used to examine the impact of both dividend payout ratio and dividend yield on share price volatility. Other variables such as (firm size, growth in assets, debt ratio and operating income volatility) have been used to handle their effects on share price volatility. The selection of these variables are derived from Allen and Rachim (1996), Osman et al . (2010), Asghar et al . (2011), Hashemijoo et al . (2012) and Baskin (1989) .

$$\mathbf{VOL_t = a + b_1Dy_t + b_2Opin_t + b_3Pout_t + b_4Debt_t + b_5Size + b_6Growth_t + \varepsilon \ldots (1)}$$

Where :

a : Intercept

b : Coefficient parameters

Vol : price volatility

Dy : Dividend yield as proxy for dividend policy

Opin : Operating income Volatility

Pout : Payout Ratio as proxy for dividend policy

Debt : Long Term Debt as proxy for capital structure

Size : Firm Size

Growth : Firm Growth " Growth in Assets "

ε : Residual error term

to capture the effect of dividend policy on share price volatility, the model above has been extended to include an interaction term (interaction dummy variable) and this model represented as follows :

$$VOL_t = a + b_1 Dy_t + b_2 Opin_t + b_3 Pout_t + b_4 Debt_t + b_5 Size + b_6 Growth_t + b_7 It_t + \varepsilon \ldots (2)$$

Where b_7. **It** referred to as "interaction term"

1.7 The Study Structure

To achieve the study objective and to examine the relationship between dividend policy and share price volatility in the GCC stock exchanges, the study is organized as follows :

Chapter two includes three parts. First part presents the theoretical framework of the study that consists of all theories and issues that are related to Dividend Policy. the second part provides an overview of the GCC stock exchanges and historical development and provide some economic indicators. Moreover, the last part presents the literature review related to dividend policy especially those in emerging market.

Chapter Three presents the study methodology the hypotheses, , sample and data type.

Chapter four discusses the results, the last Chapter provides the summary of results and recommendations.

Chapter Two

Theoretical Framework And Literature Review

2.1 Introduction

This chapter provides a discussion for theoretical framework that is related to dividend policy and share price volatility, also presents previous studies that have been conducted on this topic.

2.2 Dividend Policy Theories

The dividend policy is still one of the main financial decisions in the modern corporate finance. According to Brealey and Mayers (2002), the dividend policy is considered one of the main puzzles in finance.

This study aims at investigating the relationship between dividend policy and share price volatility. Thus, this part presents the theoretical background of dividend policy, with its various theories.

2.2.1 The Irrelevance Theory

The dividend policy and capital structure theories help in formulating the hypotheses of this study. Grahm and Dodd (1934) argued that the firm is generated to pay dividends; if the firm pays higher dividends that will lead to increase in its stock price.

Modigliani and Miller (1958) work is regarded as the basis of modern theory of capital structure, which is based on assumptions that support the existence of

market efficiency. In such market it is assumed that no frictions such as (no transactions cost, bankruptcy cost, tax). In the same type of this market, investors and firms can borrow and lend at the same rate.

Modigliani and Miller (1961) illustrated that the firm value is unaffected by its dividend policy. The firm value, therefore, is affected by generating the earnings and investment decisions. Investors always prefer to increase their wealth through receiving dividends or capital gains. However, investors prefer the capital gains to dividends by increasing stock price. Therefore, the firm value is irrelevant to dividend policy.

Modigliani and Miller's theory is regarded as the basis of modern theory of dividend policy in that the theory is built using several assumptions as follows :

1- Absence of tax
2- symmetric information, which means the insiders and outsiders have the same information about the firm
3- No bankruptcy cost
4- No transactions cost
5- The firm and investor can lend or borrow at the same rate in the perfect capital market

6- No default risk

Using the following basic valuation model, which is referred to as "the dividend discount model".

$$PV = D/(1+r)^t$$

Where :

Pv : Present Value

t = time span

D : expected future dividends

r : Opportunity cost " Required rate of return "

The model that shows above, which indicates that an increase in dividends will lead the firm value to an increase. However, in a perfect capital market, the firm value must be unaffected by its dividend policy. Therefore, the required rate of return must equal the income and capital gains.

On the other hand, More than one voice argued agianst Modigliani and Miller (1961). First of all, the Bird-in-the-hand theory illustrated that the firm that pays more dividends will have its stock sell at high price, which means the firm value is measured by its stock price. Some assumptions based on imperfect capital market

are unlike Miller (1961) assumptions. Mainly, more dividends reduce the future cash flows and higher payout ratio reduces cost of financing. In addition to naysayers of the bird in the hand theory, some loud voices refused Modigliani and Miller (1958 , 1961), which it maintained that the firm value is unaffected by dividend policy and is based on the perfect capital market. However, many researchers argued against Modigliani and Miller (1958 , 1961) in that the capital market is not perfect in the real world and the firm value is measured by its stock price not by power of earnings and investment decisions. The researcher's attention ,therefore, has shifted towards solving the dividend policy puzzle.

2.2.2 Tax Preference Theory

According to this theory, investors prefer to invest in firms that pay lower dividends, which is attributed to the fact that the tax is higher on dividends than the capital gains that are obtained from increase in the stock price.

Weston and Brigham (1993) stated that investors always prefer the capital gain to dividends because the tax is higher on dividends than on capital gains. In consequences, the firm that pays lower dividends can bring more investors and its firm value increases more than the firm that pays high dividends, which is the reason that accounts for increasing the retained earnings and may lead the firm growth to rise in the future.

Miller and Scholes (1978) indicated that the differential thinking exists among investors. In the tax issue, investors rank their investments according to tax in order to make the decision about investing in the firm that pays high or low dividends. Therefore, investors choose the investments according to their preferences. According to Allen and Michaely (1995) stated that the firm that pays lower dividends is preferred by investors to the firm that pays high dividends, where investors may pay high price for its stock in order to avoid the tax on dividends.

2.2.3 The Clientele Effect

The clientele effect shows that the impact of investor preferences on share price according to dividends distributions and tax. According to this theory, the investor prefers the dividends over capital gains and vice versa. According to Miller and Modigliani (1961) investors are indifferent for dividends distributions in perfect capital market. This is because the dividends distributions irrelevant for investors either of receiving dividends or capital gains.

Farrar and Selwyn (1967) indicated that investors prefer the dividends or capital gains according to the existence of tax. When the tax on dividends higher than the tax on capital gains, in that the investor prefers the capital gains to dividends distributions.

The share price is associated with investors preferences, which means that if the firm changes the dividend policy may lead the share price to be more volatile. In case of financial crisis, the clientele effect assumes that the investor prefers the firm that pays high dividend payout ratio in order to satisfy its utility, principally the crisis makes the investments to generate a low return.

2.2.4 Agency Cost Theory

According to Jensen and Meckling (1976), the Agency Cost arises from the separation of firm ownership between managers and shareholders. With expansion of the firm operation; the shareholders delegate the managers to coordinate all firms activities after the managers are elected by the board of directors, who are elected by shareholders. The manager is considered as an agent of shareholders, where the ownership is separated between agent and shareholder. The manager, therefore, has a main objective that is the shareholders' wealth maximization.

The conflict between managers and shareholders is created by the separation of ownership between them. The control on manager has been increased by shareholders when the manager has less than 100 % of the ownership in the firm. Managers must make the best decision to achieve the fundamental objective of firms, not building their empire through maximizing their wealth rather than the

shareholders' wealth. Therefore, the conflict should exist if the manager makes the decision for self-interest not for the firm objective.

Similarly, La Porta et al. (2000) illustrated that the shareholders have more rights that make them to have all effects on the dividend policy in the firm, followed by the managers, who prefer dividends over retained earnings, principally in the emerging markets.

Minimizing restrictions on the agent (manager) of shareholders will lead the manager to extend his control on the firm and use it for his interest and building his empire. In consequences, this conflict creates overinvestment through investing in negative net present value projects.

Jensen (1986) argued that the agency cost creates overinvestment problem and that managers always pursue their aim to increase their control; Therefore managers prefer expansion in the firm size.

To handle the reasons of agency cost, many researchers confirmed that the conflict exists and is attributed to three reasons. First, as Masulis(1988) illustrated, managers invest the available cash flow in short term rather than long term projects, which means that they prefer less risk and profitable investment. Second, Hunsaker(1999) showed that the less risky and profitable investments are preferred by managers, principally if managers have less than 100 % of ownership in the

firm. Third, Gravey and Hanka(1999) illustrated that managers insist to use the employment termination to stay in their positions.

To reduce the conflict between managers and shareholders, The methods used are :

1- **Dividend policy** : Easterbrook (1984) showed that the dividends reduce the conflict between shareholders and managers through control on cash available under managers' discretion.
2- **The Role of debt** : The overinvestment problem can be reduced by issuing convertible bonds and short term debts rather than issuing long term bonds. Hunsaker(1999) clarified that the long term debt leads to increase the chance of bankruptcy cost, so the firm resorts to issuing short term debt that is considered better than long term ones.

As mentioned earlier, Jensen and Meckling (1976) stated that the optimal debt-equity ratio is the point at which firm value is maximized, in which the marginal cost of debt offsets the marginal benefits .

2.2.5 Shareholders and Bondholders Conflict

The conflict is considered one of the main methods that have been used as a solution to solve the conflict between managers and shareholders, mainly, the conflict raised from the bond holders attempt to protect their wealth. Principally

they receive a fixed income not like common stocks, which they have a variable income. Therefore, bondholders demand a higher return on their bonds to avoid the chance of bankruptcy cost and to eliminate the managers' discretions.

Miller and Rocks (1985) illustrated that the conflict raised from increasing the cost of investment decisions that are taken by firms and showed the costs of external financing that the firm bears it. Basically, the firm must depend on earnings to finance investments and activities.

The cost of debt is based on the firm size, as Rozeff (1982) mentioned. Naturally , The smaller firms cannot finance their investment by debt, which is attributed to various reasons. Firstly, the shareholders are dissatisfied with the firm that finances their investment by debt. Secondly, the smaller firms are exposed to bankruptcy cost. Thirdly, according to Redding (1997) and Fama and French (2001), an increase in the debt leads to minimize control on the firm by shareholders.

Smith and Warner (1979) clarified the conflict is resulted from wealth transfer from bondholders to shareholders. Basically, it allows to demand for a higher rate of return on bonds by bondholders, where managers continue to invest the external funds such as bonds or loans in less risky and profitable investments in order to

avoid the chance of the bankruptcy while the bondholders are getting higher returns, Which leads to transfer the wealth from shareholders to bondholders.

The conflict between shareholders and bondholders creates an underinvestment problem. According to Mayers (1977) illustrated that the shareholders refusal of any investment has low positive net present value to avoid wealth transfer. According to Smith and Warner (1979), the under investment problem can be solved by issuing the convertible bonds or using the short term debt, in which the firms can convert the bonds at end of maturity to a number of stocks.

2.2.6 Assets – Substitution

The conflict that arisen from Asymmetric information has been illustrated in Mayers and Majluf (1984), firms use debts to finance their activities. Therefore, the bondholders demand returns according to type of investment. Principally, it is considered a good signal to shareholders and an incentive to invest the fund in risky and profitable projects.

2.2.7 Signaling Theory

Information plays an important role in making the decision about future investments; information about the nature of investment gives more accurate

decisions and helps the firms or investors to make the best decisions about investments.

According to Mayers and Majluf (1984), Ross (1977) alluded that the Asymmetric information is considered one of the main reasons for investment failure, in that the insiders know more than the outsiders about the firms. All researchers know perfectly the symmetric information assumption, which is assumed by Miller (1961).

The signaling theory assumed that the firm that pays dividends is always seeking to send a signal to outsiders, Lintner (1956). According to Laux et al.(1998) showed that decreasing the dividends paid will affect the stock price more than increasing dividends.

DeAangelo and Skinner (1996) stated that increasing dividends is not related to firms earnings in the future, principally if the agent (manager) of the shareholders continues to distract the attention from him and if the manager tries to build his empire. Jensen and Jhonson (1995) indicated that the changing of dividends distributions will lead the risks to change in the future.

The importance of signaling theories has increased in terms of its relationship with dividend policy and capital structure. In some models, the dividend is considered a signal to overcome the asymmetric information and disclosure of all

financial information that meet investors' needs to build their financial and investment ideas about investment, according to Wolter Model (1962), which explained that the dividends have an effect on the Market stock value, represented by :

$$P = (D + ((R (B - D)) / K)) / K$$

Where :

P : The Market stock price

D : Dividends

R : The expected rate of return

K : The required rate of return

B : How much the stock received from the earnings of the firm

Based on the model, when the rate of return is higher than the required rate of return, that will lead to more positive effects with increasing the retained earnings. On the other hand, when the rate of return is lower than the required rate of return, the firm should take into consideration the dividend policy in order to maximize the stock price or firm value.

2.2.8 The Bird in The Hand Theory

This theory is one of the main dividend theories that contradicted the Irrelevance theory, according to Gorden (1959) who built the assumptions on the Bird in the hand theory. The model handle dividends distributions and showed that investors are risk averse. The author confirmed that the market stock value equals the current value of dividends distributions, represented by :

$$P = D / K\text{-}G$$

Where :

P : The expected stock price

D : Expected Dividends

K : Opportunity cost or Required rate of return

G : Growth in the earnings

The Theory proved that if the required rate of return increases the retained earnings should increase .

2.2.9 Pecking Order Theory

The Pecking Order Theory is considered one of the main theories introduced by Mayers and Majluf (1984), it firstly clarified that the firm prefers to use the internal funding " Retained Earnings " to finance its investment and activities, which is considered as the cheapest cost amongst sources of Funding. Secondly, the firm prefers the debt to equity fund, principally the debt represented by issuing bonds that have an advantage over the equity funding in which the tax is deductible. Moreover, the equity fund is the most expensive cost amongst sources of funding, including common stocks and preferred stocks issuing, Which has a floatation cost and it is considered a bad signal about the true value of the stock. An increase in supply of stocks will lead the stock price to decline.

2.2.10 Free Cash Flow

The free cash flow theory is one of the optimum theories that takes into consideration the takeovers and their risks on the firm. Jensen (1986) illustrated that more cash flow available under manager discretion will lead the firm to destroy it, especially when the agency problem exists. This is because the manager has less than 100 % of ownership in the firm.

The overinvestment problem arisen from the conflict between manager and shareholders is the reason attributed to cash flow available under manager,

principally managers who use the free cash flow in negative net present value, or pay them in form of the dividends to shareholders in order to build their empire.

Easterbook (1984) suggested a solution to reduce the overinvestment problem by the firms pay the free cash flow in the form of dividends. Hunsaker (1999) also suggested that the convertible bonds and short term debts are the right decision to reduce the free cash flow available under manager discretion.

The above discussion reveals that there is an interaction between dividend policy theories and the capital structure theories. Therefore, a proxy for capital structure is used as a control variable in the model that has been mentioned earlier in order to capture this interaction.

2.3 The Gulf Cooperation Council Stock Exchanges Overview

The GCC Stock Exchanges have been growing since the governments gave priority to national economy, by using a new approaches to support the national economy for example (encourage the development of small and medium enterprises) and enhance the power of the stock exchanges, which is considered the first motor of national economy.

The stock exchanges in GCC have a high liquidity compared with the Middle East and Egypt stock exchanges, the GCC Stock exchange is one of the most developed and sophisticated markets among the Arab stock exchanges.

Oil is one of the main GCC Growth factors in the world economy, where Saudi Arabia is a country that has crude oil reserves standing at 266 billion barrels, representing 57 % of the GCC reserves and 29 % of those of OPEC. It plays a leading role in OPEC, producing 28 % of the total OPEC oil production[1]. On other hand, the growth in national economy was the best in the year 2004 and was attributed to the strength of oil sector, strong private sector and high growth of corporate earnings.

The United Arab Emirates consists of seven Emirates including Abu Dhabi and Dubai, Sharjah, Ajman, Al-Fujayrah, Umm Al-Quwain and Ras Al-Khaima. As known for all, Abu Dhabi and Dubai are considered the largest and the wealthiest

[1] www.Gulfbase.com

emirates. They have 20% of world oil reserves and 7.2 % of GCC oil reserves, with the second largest economy in the GCC economy. The growth increased from 2004 to 2008 by 145 %.

The state of Kuwait is considered small compared to Saudi Arabia and The United Arab Emirates. It has oil reserves of about 102 billion barrels, representing 7.4 % of the world oil reserves and 21.6% of the GCC reserves. It is the second largest country in the region after Saudi Arabia in terms of oil reserves.

The Kingdom of Bahrain has 125 million barrels, representing .03 % of GCC reserves and .01 % of the world oil reserves.

The State of Qatar has become one of the largest countries in the world economy in terms of gas and oil, with 15.21 billion barrels, representing 3.2 % of the GCC oil reserves and 1.1 % of world oil reserves. The Sultanate Of Oman is considered as a middle economy in the region, with 5.5 billion barrels, representing 1.2 % of the GCC oil reserves and .4 % of the world oil reserves. No doubt, the GCC has the largest crude oil reserves in the world (70 %), which makes it play a leading role in the oil production in the world and OPEC. The best growth was from 2002 to 2008 in the GCC.

According to Dubai Chamber of Commerce and Industry, Qatar has the first most competitive economy in the region before Saudi Arabia and the United Arab Emirates.

As seen in the table below, the number of listed firms at GCC stock exchanges have increased in latest years, as the growth and investor's confidence increased.

Table 2.1 shows the major stock exchanges that are located at the GCC with number of sectors and market capitalization and a number of listed firms.

Table 2.1
The GCC stock exchanges

Stock exchange	Number of sectors	Market capitalization In Billion Dollar	Number of listed firms
The Kuwait stock exchange	**13**	**$24,370,912,759**	**208**
The Muscat stock exchange	**3**	**$4,954,803,716**	**115**
Saudi Arabia stock exchange	**15**	**$1,467,078,913,270**	**160**
The Abu Dhabi stock exchange	**9**	**$253,947,498,154**	**66**
Bahrain stock exchange	**7**	**$18,098,975,275**	**44**
Dubai stock exchange	**9**	**$216,264,114,434**	**60**
Doha stock exchange	**7**	**$287,330,671,798**	**42**

Source : prepared by researcher

2.4 The Impact of the international financial crisis on the GCC National economies

The financial crisis had an effect on the GCC stock exchanges in september 2008 with the breakdown of large United States financial firms, which made financial markets in the United States face the bankruptcy.

The GCC was affected as the rest of the world countries by the global financial crisis. This is because of its openness and interdependence with foreign markets. It benefited from speculative capital in real estate and commodities including oil. The oil prices increased to $ 145, which lead to trade balance surpluses in the GCC.

The repercussions of the global financial crisis and its impact on the GCC :

1- The real estate sector was the first sector affected by the financial crisis, especially Dubai real estate sector.

2- The firms that stopped their projects and investments. This is because the liquidity has fallen to zero and the leverage has increased faster than in the past year.

Table 2.2 shows that the procedures have taken into consideration governments in the GCC in order to reduce the impact of financial crisis.

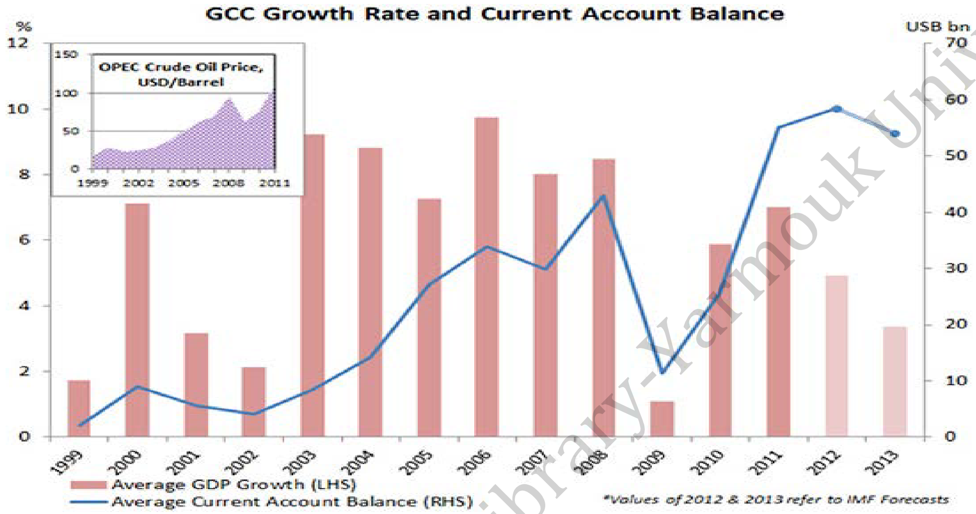
Table 2.2

Strategies of The International Financial Crisis Effects

Country	Procedures
The state of Kuwait	**1- Reduce the interest rate by 1.5%** **2- Pump one billion kuwait diners in the financial markets**
The United Arab of Emirates	**Issue short term loans amounting to 50 billion Dirhams**
The Kingdom of Saudi Arabia	**Reduce the interest rate**
The Kingdom of Bahrain	**No procedures have been taken**
Qatar	**Buying local stocks, to support the stock prices**

Source : prepared by researcher

[2]Figure 1 presents the growth rate and current account balance in the GCC economies with the impact of the international financial crisis on its economies.

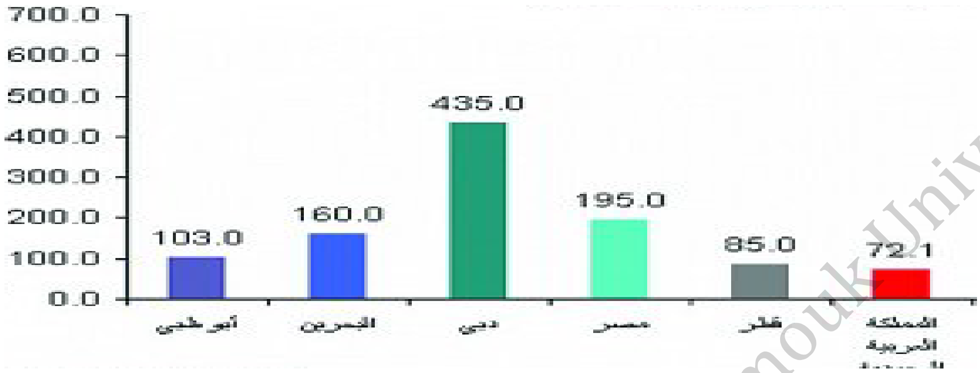


As figure that is shown above, the GCC economy grew between 2003- 2008. By 2009, the international financial crisis had an effect on the GCC economy through dropping in trade balance and growth. This is because reduction of oil demand and many firms have bankruptcy, which is attributed to the leverage. The GCC should adopts the diversifications strategy in order to avoid its economies from crisis .

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[2]http://blog.securities.com/2012/12/is-gulf-countries-economy-immune-to-the-global-downturn/

[3]**Figure 2 : The volume of real estate sector leverage in the GCC**



As shown in the figure above, the real estates' leverage was the highest in Dubai. Therefore, Dubai is one of the cities that was most affected by the financial crisis in the region. The leverage in Dubai was about $ 435 billion as compared to other countries in the region with less than $ 200 billion.

[3] http://thomsonreuters.com/

2.5 Literature Review

This part presents all previous studies that have investigated the linkage between dividend policy and share price volatility.

2.5.1 Previous Studies Conducted on Emerging Stock Exchanges

Ramadan (2013) has investigated the relationship between the dividend policy and share price volatility, using a panel of 77 publicly industrial firms that are traded at Amman stock exchange from 2000 to 2011 . Using Baskin (1989) model, The multiple least regression is employed to achieve the objective of the study. It has taken into consideration some of the control variables to handle their effects on share price volatility such as firm size and growth in assets , debt ratio and earnings volatility with dividend yield and the payout ratio effects. The results indicated that the two components of the dividend policy (Dividend yield, dividend payout ratio) have a negatively relationship with share price volatility .

Habib et al. (2012) aimed at investigating the relationship between dividend policy and share price volatility in Pakistan stock exchange. A sample consists of all non-financial firms that are listed at Pakistan stock exchange, by using the gross sectional analysis to analyze the relationship between dividend yield and dividend payout ratio. The study used some of the control variables such as firm size, growth in assets, long term debt and earnings volatility to test their effects on share

price volatility. The model in this study is derived from Baskin (1989) and Allen and Rachim (1996), where Allen and Rachim analysis showed a significant positive relationship with share price volatility after taking the control variables into consideration to limit the problem. The analysis was aimed to provide the investors and management advice about the investment decisions. The theories have used in the study are related to dividend policy and price risk such as Agency cost and signaling theory, the bird in the hand and pecking order theory, which they highlight the theoretical importance especially Miller theory and Jensen and Meckling theory about dividend policy. The results of the study suggested that negative relationship between dividend payout ratio and share price volatility but showed a positive relationship between dividend yield and share price volatility. It showed also a negative relationship between both (size, earning volatility) and share price volatility but the growth in assets and long term debt have a positive relationship with share price volatility. There is a significant positive relationship between dividend payout ratio and share price volatility and there is a significant negative relationship between both (debt, size) and share price volatility.

Musmar (2012) examined the impact of the dividend policy on share price volatility in Jordan, using a panel of 46 public firms that are listed at Amman stock exchange during the period 2000 -2009. Four hypotheses were formed to show the relationship between dividend policy and share price volatility. To test the effects

of factors, the study is employed the multiple regression analysis. The results of the study indicated that there is a negative relationship between the dividend yield and share price volatility.

Hashemijoo et al (2012) examined the relationship between the dividend policy and share price volatility. A sample includes all consumer product firms that are listed at Malaysian stock exchange. Depending on Baskin (1989), using the multiple least regression, which used different methods to examine the impact of dividend policy on share price volatility by adding some of control variables such as firm size, growth in assets, earnings volatility and debt ratio in order to examine their effects on share price volatility. After testing the factors, the results indicate that dividend yield and payout ratio have a negative impact on share price volatility. Moreover, the size has a negative impact on share price volatility. On the other hand, the earnings volatility has a positive impact on share price volatility. Therefore, the dividend yield and firm size have the most impact on share price volatility.

Jecheche (2012) investigated the impact of dividend policy on stock prices, by using a sample of 60 firms that are listed at Zimbabwes' stock exchange during the period 2001-2011. After employing a cross sectional regression analysis to test the effects of factors such as (firm size, operating income volatiltiy, leverage, growth in assets) on share price volatility. The results indicated that the dividend policy

has an effect on share price and that there is a positive relationship between both (size, leverage) and share price volatility.

Afaza and Mriza (2011) examined the impact of institutional ownership and growth opportunities on dividend policy. A sample of the study was 120 firms that are traded at Karachi Stock Exchange for the period 2002-2007. On the basis of the results, there a positive relationship between dividend payout ratio and growth opportunities after employing panel of the multiple least regression. The results showed that a negative relationship between profitability and leverage.

Asghar et al. (2011) aimed at investigating the impact of dividend policy on share price volatility, by using a sample of five sectors that are listed at Karachi stock exchange during the period 2005 - 2009. The panel data of multiple least regression was used to test the effects of control variables on share price volatility. The results suggested that the growth in assets has a negative correlation with share price volatility, and that the dividend yield has a positive correlation with share price volatility.

Utami and Inanga (2011) investigated the impact of the agency costs on dividend and leverage, Testing the difference in agency cost between firms that pay regular dividends and firms that do not pay regular dividends to shareholders. A sample data have been collected from Indonesian during 1994-2007. They used the factors that have an effect on the level of the agency cost such as profit and

growth, risk, size and free cash flow to test their effects on the agency cost. Using the regression analysis, the results suggested that there is a positive effect of free cash flow on leverage, also there is a negative effect of growth on dividend. On the other hand, there is a positive effect of leverage on dividend.

The impact of the dividend policy on share price was examined by Khan et al. (2011). A sample consists 55 companies that are listed at Karachi stock exchange for the period 2001–2010. The study used some of the control variables such as profit after tax and return on equity and Earning per share. The model used in the study was a regression one that was applied on panel data to determine the relationship between dividend policy and share price, which derived from Rashid and Rahman (2009) and Ashgar et al. (2011) that used the stock price volatility as a dependent variable. The results suggested that there was a positive relationship between dividend yield and stock prices but there is a negative relationship between retention ratio and stock prices. The control variables have a positive relationship with stock prices. As a consequence, the investor plays an important role in determining the stock price in market because the investor is always looking for the best investment.

Nishat and Irfan (2010) included 160 firms that are listed at Kharachi stock exchange to examine the impact of dividend policy on share price during the period 1981–2000, using the cross sectional regression analysis after controlling

for firm size, growth in assets, earnings volatility and debt ratio with dividend yield and payout ratio. These factors were used to examine their effects on share price volatility, and the results showed a significant relationship between share price and both (dividend yield, payout ratio). There is also a significant impact of both (debt, size) on share price.

In the same link, Osman And Mohammed (2010) investigated the dividend policy in Saudi Arabia by examining it in three ways. First, it examined the dividend policy on the firms that distributed one hundred percent of its profit in the form of dividends. Second, it examined the relationship on the firms that are highly levered. Moreover, it investigated the relationship on the firms that have no income and no capital gain taxes. The factors that have used in this study are profitability and firm size, leverage, agency cost, business risk, ownership structure, maturity, tangible assets and growth opportunities, by Using the panel of all banks and services and industry firms that are traded at SAMA for the period 1989 - 2004. The study selected the firms that pay dividends and ignored others and the examination was tested by Tobit Regression. The results suggested that the dividend yield is high for financial firms and most financial firms distributed cash dividends. Therefore, three of factors had significant determinants of dividend policy of financial firm: profitability and firm size and business risk.

Al – Kuwari (2009) investigated the determinants of the dividend policy in the emerging stock exchanges, by using the panel of all non financial firms that are traded at the GCC stock exchanges during the period 1999 -2003. The factors in this study are growth opportunity and free cash flow, business risk, firm profitability and growth rate that are used in order to test their effects on the dividend payout ratio. Using the Tobit model, The study suggested that the dividend payout policy is strongly related to government ownership.

While Rashid and Rahman (2008) examined the relationship between the dividend policy and stock price volatility in Bangladesh, by using the cross sectional regression analysis. The effects of some control variables such as growth in assets and firm size, leverage on share price volatility should be tested on all firms listed at Bangladesh stock exchange. The results of this study indicated that there is a non significant relationship between stock price volatility and dividend yield.

Likewise , Pani (2008) examined the impact of dividend policy on stock prices behavior in Indian, by using the panel of 500 firms that traded at Brombay stock exchange for the period 1996 – 2006. The factors that have an effect on stock price are dividend yield and some of the control variables like size, leverage, growth in assets are used to examine their effects on stock price. After using the multiple regression analysis to test the effects of dividend policy on stock price, the results

of the study showed that the size and debt equity ratio play an important role in stock returns.

Al-Malkawi (2007) aimed at investigating the determinants of corporate dividend policy in Jordan, by using the panel of all firms that are listed at Amman stock exchange during the period 1989 - 2000. The study developed the hypotheses mentioned in the previous studies to test the factors that have an effect on the dividend policy decision, mainly, Hypotheses to be tested on All public firms traded at Amman stock exchange. Factors that have an effect on the dividend policy decision are ownership structure and agency cost, signaling, investment opportunities, firm size, profitability and taxes. After using the Tobit regression, The results suggested that the profitability and firm size have a positive and significant effect on its dividend policy and that the leverage has a negative effect on its dividend policy.

Ghosh and Sirmans (2006) examined the effects of past dividend policy, leverage and profitability on firm value in India. The study employed the fixed logit model to test the factors that have an effect on the firm value in the future such as firm size and payout ratio, profitability and leverage. A sample consists of all public firms that are traded at S & PCNX 500 Index during the period 1989 - 2001. The statistical methodology showed that the leverage has a negative effect

on the market to book value with different significance from firm size and that the payout ratio has a positive impact on the market to book value.

Similarly, Sharab (2006) aimed at investigating the impact of the dividend policy on share prices in Palestine stock exchange. The study collected all data from 1997 to 2005, by using the simple and multiple regression to test the hypotheses that was formed according to the previous studies. The results indicated that the earnings per share, dividends per share and retained earnings affect the stock prices . The dividends have more effects on the stock prices than the retained earnings.

In the same line of dividend policy, Omet (2004) aimed at investigating the dividend policy behavior, by using the pooled of firms that are listed at Amman Stock Exchange during the period 1985 – 1999. After taking into consideration the fixed and random effects model that have been used to test the dividend policy behavior. On the basis of the results, there is no significant in dividend behavior when the tax rate increases by 10 %.

2.5.2 Previous Studies Conducted on the Developed Stock Exchanges

Bremberger et al (2013) investigated the impact of different regulatory and ownership regimes on the dividend policy, by using the panel of 106 publicly traded European electric firms during the period 1986 – 2010. It measured profitability and volatility and their effects on dividend policy. The Lintiner (1956) Model was employed to test the impact of payout ratio, total assets and total liabilities on the dividend policy. The results indicated a difference between state firms and private firms, in that the private firms pay lower dividends, while the state firms pay higher dividends regardless of the regulatory regime.

Al Shabibi and Ramesh (2011) examined the factors that have an effect on the dividend policy decisions, by using the panel of non financial firms that are listed at UK stock exchange for the period 2007 - 2012. The factors that have an effect on the dividend policy are firm size and profitability, leverage and growth. The study employed the Multiple Regression to test the relationship between them. The analysis estimation results showed a positive relationship between size and dividend per share.

In the same line of dividend policy, Hussainey (2010) examined the determinants of the dividend policy to solve the puzzle of dividend policy in UK stock exchange. Using the panel of all publicly non- Financial firms that are traded at stock exchange for the period 1998 - 2007. This study is premised on the

theoretical framework as created by Baskin (1989) and Allen and Rachim (1996). The researcher employed the correlation and multiple least square regression to explore the association between the share price and (dividend yield, dividend payout ratio). The researcher used both payout ratio and dividend yield and some of the control variables such as earning volatility and firm size, growth in assets and long term debt to test their effects on share price volatility. Baskin (1989) had taken only the dividend yield and dividend payout ratio to test effects on the share price volatility. The results suggested that a negative relationship between dividend yield and dividend payout ratio and share price volatility. Allen and Rachim (1996) results suggested that a positive relationship between dividend yield and dividend payout ratio and share price volatility. As a consequence, the control variables were included in the analysis to limit the problem. The results also indicated that the dividend yield and dividend payout ratio have an effect on share price volatility, where the dividend yield and dividend payout ratio and control variables (excluding the long term debt) have a significant negative relationship with share price volatility; but the long term debt has a significant positive relationship with share price volatility. The study shed a light on what moves stock price and the factors to be considered by investors before making investment decisions. It highlighted the dividend theories and risk theories, which are related to dividend policy and share price volatility.

Within the same line, Jeong (2009) aimed at investigating the determinants of dividend policy in Korea, by using the panel of 299 firms that are traded at Korean Stock Exchange during the period 1981-2006. The results showed that the dividend payments change when the interest rate changes, it showed also that dividend payments depend on the stock face value.

Allen and Rachim (1996) investigated the linkage between dividend policy and share price volatility. A sample consists of 173 Australian firms that are listed at stock exchange during the period 1972-1985. The study used some control variables like firm size and earnings volatility, leverage and growth in assets, by employing the cross sectional regression analysis to test this relationship. The results suggested that a significant relationship between size and earnings volatility and also indicated that a significant impact of size on share price volatility.

Chapter Three

Data and Methodology

3.1 Introduction

This chapter presents the methodology that is used to achieve the study objective with the first section presents data and sample selection procedures. The model and statistical analytical tools are presented and discussed in the second section.

The data have been collected from companies' guides that are issued annually and quarterly by the GCC stock exchanges, which are considered as secondary data.

3.2 The Sample and Data

The population of the study consists of all of financial and non-financial firms that are listed at the GCC stock exchanges (excluding the Islamic banks and gasoline firms) for ten years from (2003 to 2007) before the financial crisis and from (2009 to 2012) after the financial crisis.

The data for the sample have been collected from different countries in economy and environment.

Table 3.1 presents the number of financial and non financial firms that is selected in the sample.

Table 3.1

Stock exchanges structure

Stock Exchange	**Number of financial firms**	**Number of non financial firms**
The Kuwait stock exchange	**5**	**4**
The Muscat stock exchange	**3**	**3**
Saudi Arabia stock exchange	**6**	**14**
The Abu Dhabi stock exchange	**4**	**4**
Bahrain stock exchange	**2**	**4**
Dubai stock exchange	**3**	**3**
Doha stock exchange	**4**	**5**

The total number of firms that selected is 64 firms after they met the following criteria :

1- Firms that distributed cash dividends for at least 4 years from 2003 to 2012 .

2- Firms that have all available financial data and stock price information [4]for the period (2000 – 2012).

The total number of firms that have been selected based on the criteria above was 64 firms, Which is represented 640 observations.

Table 3.1 shows the number of firms that have been selected and categorizes them according to their sector; the number of financial sector firms is 28 and the number of non financial firms is 36.

Table 3.2

Sample structure

The Sector	Number of Firms	Percentage
Financial Firms	**28**	$\frac{28}{64} = 43.75\ \%$
Non Financial Firms	**36**	$\frac{36}{64} = 56.25\ \%$
Total	**64**	**100 %**

1- [4] This period is chosen to get data on operating income volatility that is calculated as the standard deviation for 3 past years of ratio of earnings before interest and tax (EBIT) to total assets.

3.3 The Hypotheses of The Study

Based on previous studies that have examined the relationship between the dividend policy and stock price volatility such as Osman et al (2010) and Asghar et al (2011), Allen and Rachim (1996), Hashemijoo et al (2012) and Baskin (1989), which have examined the impact of dividend policy on stock price volatility. While Al-Malkawi (2007), which examined the determinants of dividend policy in jordan.

According to the previous studies, two main hypotheses with four sub hypotheses have been formulated in order to examine the impact of the dividend policy on stock price volatility, The hypotheses categorized as follows :

The Main Hypotheses :

H1: Dividend payout ratio has a statistical significant relationship with stock price volatility

H2: Dividend yield has a statistical significant relationship with stock price volatility

The Sub Hypothesis :

H1A: Operating income volatility has a statistical significant relationship with stock price volatility

H2A: Growth in assets has a statistical significant relationship with stock price volatility

H3A: Firm size has a statistical significant relationship with stock price volatility

H4A: Debt ratio " leverage " has a statistical significant relationship with stock price volatility

3.4 The Methodology of The Study :

To examine the hypotheses, the panel of multiple regression analysis is employed to test the impact of dividend policy on share price volatility, in which to show if there is a significant relationship between dividend payout ratio and share price volatility, and the study also shows if there is a significant relationship between dividend yield and share price volatility.

Baskin (1989) added the control variables in order to handle their effects on share price volatility. These variables are firm size and growth in assets and debt ratio and operating income volatility. These variables have been cited in many previous studies such as Allen and Rachim (1996), Osman et al. (2010), Asghar

et al. (2011) and Hashemijoo et al. (2012) and Baskin (1989) and Musmar (2012).

The panel data of multiple least regression Model is used to estimate the impact of dividend policy on stock price volatility .

The following Regression Equation that is used to achieve the objective of the study :

$$\mathbf{VOL_t = a + b_1Dy_t + b_2Opin_t + b_3Pout_t + b_4Debt_t + b_5Size + b_6Growth_t + \varepsilon \ldots (1)}$$

Where :

a : Intercept

b : Coefficient parameters

Vol : price volatility

Dy : Dividend yield as proxy for dividend policy

Opin : Operating income Volatility

Pout : Payout Ratio as proxy for dividend policy

Debt : Long Term Debt as proxy for capital structure

Size : Firm Size

Growth : Firm Growth " Growth in Assets "

ε : Residual error term

to capture the effect of dividend policy on share price volatility, the model above has been extended to include an interaction term (interaction dummy variable) and this model represented as follows :

$$\mathbf{VOL_t = a + b_1 Dy_t + b_2 Opin_t + b_3 Pout_t + b_4 Debt_t + b_5 Size + b_6 Growth_t + b_7\ It_t + \varepsilon \ldots (2)}$$

Where $\mathbf{b_7}$**. It** referred to as "interaction term"

3.4.1 The Variables

Price volatility : Is the dependent variable , which is calculated as the standard deviation of Quarterly closing stock price for each year, following Asghar et al. (2011)

Dividend payout ratio : The ratio of total dividends to total earnings

Dividend Yield : Following Hashemijoo et al , (2012). This variable is one of the main independent variables, which is calculated as the total dividends divided by market capitalization.

Operating income Volatility: Following Asghar et al. (2011) and Osman et al. (2010). This variable is a control variable, which is calculated as the standard

deviation for the past 3 years of ratio of the earnings before interest and tax (EBIT) to total assets.

Growth in Assets : As Hashemijoo et al. (2012), which indicated that the growth in assets is one of the main control variables. It is calculated as the ratio of changing of total assets at the end of the year divided by the total assets at the beginning of the year.

Firm size : It has an effect on share prices volatility. This variable is considered as a control variable, which is computed by the logarithm of total assets each year.

Debt ratio :Following Osman et al . (2010). The debt ratio " Leverage " is calculated as the ratio of the firm total liabilities to total assets, which is considered one of the main control variable.

[5]**Interaction dummy variable :** Variable that can show the different effect on observation . This variable is calculated as the dummy variable multiply the some independent variables.

[5] Allison, P. D. (1977). Testing for interaction in multiple regression. *American Journal of Sociology*, 144-153

Chapter Four

Results

4.1 Introduction

This chapter presents the statistical results, which represent the panel data regression conducted using "Stata Package". The study employed the following two models to test the impact of dividend policy on share price volatility.

$$VOL_t = a + b_1 Dy_t + b_2 Opin_t + b_3 Pout_t + b_4 Debt_t + b_5 Size + b_6 Growth_t + \varepsilon \ldots (1)$$

and to captured if the relationship between dividend policy and share price volatility changed if the international financial crisis is considered. The extended model represented as follows :

$$VOL_t = a + b_1 Dy_t + b_2 Opin_t + b_3 Pout_t + b_4 Debt_t + b_5 Size + b_6 Growth_t + b_7 \, It_t + \varepsilon \ldots (2)$$

Table4.1 presents the descriptive analysis used to show the means and standard deviation for independent variables and dependent variable.

Table 4.1: Descriptive Statistics Results for the study variables

	Mean	Max	Min	Std.Dev
Pay out ratio	.4913	1.0065	0	.2846
Dividend yield	.034	.078	0	.022
Firm size	6.38	7.6	5.07	.7405
Growth in assets	.1508	.5699	-.0772	.1741
Debt ratio	.5323	.8961	.083	.3032
OP-Income	.0188	.07912	.0011	.0209
Price volatility	1.255	5.87	.3697	1.64

Observation (n)=640

The results in Table 4.1 show that the payout ratio has 1.0065 as maximum value and zero as minimum value with the means 49.13%, which indicates low variety in the dividend payout ratio amongst the firms that are listed at the GCC Stock Exchanges. According to the table, The dividend yield has the lowest deviation in value amongst the firms with 0.078 as maximum value and zero as minimum value and the mean, therefore, is 3.422%. Moreover, the maximum value of the firm size is 7.6 and the minimum value is 5.07 with an average of 6.387, which indicates that a low deviate in the value amongst the firms in the region. However, growth in assets has a high deviation, which indicates that the maximum value is .56996 and the minimum value is -.0772 with an average of 15.085%. As shown in the table, the leverage has .8961 as maximum value and .083 as minimum value with its an average of 53.2378% , which indicates less variety than for growth in assets.

Moreover, the operating income volatility has .07912 as maximum value and .011 as minimum value with an average of 1.884 %. This figure indicates a high volatility in the value amongst the firms that listed at the GCC Stock Exchanges. In addition, the price volatility has 5.87 as maximum value and .03697 as minimum value with an average of 1.255134, which indicates the highest deviation and volatility amongst the firms.

To look at the relationship between the dependent variables and independent variables, the following table presents the correlation matrix results.

Table 4.2 : Correlation Matrix

	Price volatility	Pay out ratio	Dividend yield	Firm size	Growth in assets	Debt ratio	Op-income
Price volatility	1.000						
Pay out ratio	.0317	1.000					
Dividend yield	-.1565	.06787	1.000				
Firm size	.0153	-.1835	-.1108	1.000			
Growthin assets	.2048	-.1774	-.2070	.0984	1.000		
Debt ratio	-.0859	-.2998	-.2574	.7390	.1367	1.000	
Op-income	.0656	.0196	.0793	-.3202	-.3202	-.4663	1.000

Table 4.2 presents that there is a negatively correlated between the share price volatility and dividend yield at the value of -.1565. This correlation indicates that the dividend yield that increases the share price will be less volatile. Moreover, the correlation between the share price volatility and debt ratio is negative at -.0859, which indicates that the Debt ratio that increases leads the share price to less volatile. While the dividend payout ratio has a positively correlated with share price volatility at value of .0317. In addition, the share price has a positively correlated with growth in assets. This indicates the highest correlation amongst the factors. The firm size has a lowest significant positive relationship with share price volatility. However, the operating income volatility has a significant positive impact on share price volatility.

Table 4.3 shows the results that obtained from the panel of ordinary least square using the fixed or random effects model, the following table below presents all results of the hypotheses.

$$\mathbf{VOL_t = a+b_1Dy_t+b_2Opin_t+b_3Pout_t+b_4Debt_t+b_5Size+b_6Growth_t+\varepsilon\ldots(2)}$$

Table 4.3 : OLS using fixed and random effects model

	OLS Regression		Fixed Effect Model		Random Effect Model	
Constant	-1.42		-2.284		-1.065	
Pay out ratio (POUT)	1.24		.1220		.2997	
	t *	4.04	t	.44	Z	1.11
	P (t)	0.000	P (t)	.658	P (z)	.267
Dividend yield (DY)	-21.73		-12.086		-13.63	
	t *	-5.62	t *	-3.54	Z	-4.11
	P (t)	0.000	P (t)	0.000	P (z)	0.000
Firm size (SIZE)	.5637		.6401		.5125	
	t *	4.38	t *	1.99	Z	2.47
	P (t)	0.000	P (t)	.048	P (z)	.013
Growth in assets (GROWTH)	1.45		.7698		.9059	
	t *	3.69	t *	2.39	Z	2.85
	P (t)	0.000	P (t)	.017	P (z)	.004
Debt ratio (DEBT)	-1.609		-.2283		-1.13	
	t *	-4.72	t	-.32	Z	-2.26
	P (t)	0.000	P (t)	.748	P (z)	.024
Operating income volatiliy (OPIN)	1.507		5.209		4.44	
	t	.45	t *	1.68	Z	1.47
	P (t)	.652	P (t)	.093	P (z)	.142
R	.1364		.0566		.1161	
F-Statistic	14.26		11.79		86.71	
Observations (n)	640		640		640	
Hausman test	31.15 (.0001)					

In this study, the researcher focus on two techniques that are used to estimate the panel data :

1- Fixed Effect Model : produces unbiased estimates of beta.

2- Random Effect Model : Produces high biased estimates of beta but constrains the variance.

Using the huasman test presented in the table, the researcher depends on the fixed effect model for hypotheses testing, as mentioned earlier the study provides a test of the following hypotheses.

The Main hypotheses

H1: There is a statistical significant relationship between the payout ratio and stock price volatility.

The analytical results in table 4.3 show that there is insignificant positive relationship between dividend payout ratio and share price volatility at level of 0.658, which indicates that the free cash flow theory, more dividends paid will reduce the free cash flow that is available under manager discretion in order to avoid the agency cost and more dividend will lead the share price to be more volatile and this also explain the existence of clientele effect.

The positive relationship was found in Nishat and Irfan (2010) and Hussainey (2010). However they reported a positive relationship between payout ratio and share price volatility. This is because the dividends reduce the conflict between manager and shareholders. However, Baskin (1989) showed a negative relationship between payout ratio and share price volatility at -.54 and Allen and Rachim (1996) was found a negative relationship too at -.21.

H2 : There is a statistical significant relationship between Dividend yield and stock price volatility .

The results show a significant negative relationship between dividend yield and share price volatility at level of .0000 as expected. Within the same line, Baskin (1989) found a negative relationship at level of -.643, but Allen and Rachim (1996) showed a positive relationship between the dividend yield and share price volatility at level of .006.

This results might give an indication that the GCC investor is irrational as he or she takes into consideration the dividend yield as a proxy for the stock return. Where is the literature indicated that the rational investors don't take in consideration the dividend yield, as Nishat and Irfan (2010). However, the results constructed with Rashid and Rahman (2008) results showed that there is no significant relationship between dividend yield and share price volatility.

The Sub Hypotheses

H1A:There is a statistical significant relationship between operating income volatility and stock price volatility .

The estimation results show that there is a significant positive relationship between operating income volatility and share price volatility at level of .093 in the case of 10% coefficient interval. This indicates that an increase in operating income volatility will lead to an increase in the share price volatility.

Within the same line of results, Hashemijoo et al (2012) showed a significant positive impact of earnings volatility on share price volatility, which indicated that volatility of operating income leads share price to be more volatile.

H2A: There is a statistical significant relationship between growth in assets and stock price volatility.

The estimation results show that the growth in assets has a significant positive relationship with share price volatility at level of .01. This indicates that an increase in growth in assets will lead the share price to be more volatile. This result is expected because it seems that companies rely on retained earnings to finance their growth, which it indicates a low dividend of payout ratio that have a negative

impact on volatility. However, Hussainey (2010) estimation results showed a significant negative impact of growth in assets on share price volatility.

H3A: There is a statistical significant relationship between firm size and stock price volatility.

The estimation results show a significant positive relationship between firm size and share price volatility at level of .048, which means the large firm has a stable cash flow and has a smaller probability of bankruptcy. This indicates that the firm size plays an important role in determining the volume of dividends that will be paid by the firm.

In the same line, Baskin (1989) showed " that firms do not have a ownership structure use the dividends as signaling tool ". This result is compatible with Habib et al. (2012) result, who showed a significant impact of firm size on share price volatility.

H4A : There is statistical significant relationship between debt ratio and stock price volatility.

The estimation results show that there is no significant impact of the debt ratio on share price volatility at level of .74. This indicates that the debt ratio has no effect

on share price volatility. Debt funding is one of the main solutions of agency cost; principally, the debt has one advantage in that the tax is deductible.

On the other hand, Habib et al. (2012) showed that a significant negative relationship between debt ratio and share price volatility, which indicated that debt is used to solve the underinvestment problem in order to reduce the free cash flow that is available under manager discretion. The debt ratio send a good signal to shareholders.

4.2 The Effect of The International Financial Crisis on The Results

As mentioned earlier, to captured the effects of the international financial crisis on dividend policy, the following model has been used :

$$\mathbf{VOL_t = a + b_1 Dy_t + b_2 Opin_t + b_3 Pout_t + b_4 Debt_t + b_5 Size\ b_6 Growth_t + b_7\ It_t + \varepsilon}$$

The results for analysis presented in table 4.4, which shows the ordinary least square using fixed and random effects model.

Table 4.4: The extended Model Using OLS

	OLS Regression		Fixed Effect Model		Random Effect Model	
Constant	-1.36		-.314		-.508	
Payout ratio	1.505		.502		.693	
(POUT)	t *	4.97	t *	1.78	Z	2.59
	P (t)	0.000	P (t)	.076	P (z)	.010
Dividend yield	-22.73		-11.42		-13.64	
(DY)	t *	-5.77	t *	-3.28	Z	-4.02
	P (t)	0.000	P (t)	.001	P (z)	0.000
Firm size	.5075		.261		.356	
(SIZE)	t *	3.98	t	.90	Z	1.80
	P (t)	0.000	P (t)	.369	P (z)	.072
Growth in assets	1.71		1.05		1.16	
(GROWTH)	t *	4.56	t *	3.44	Z	3.80
	P (t)	0.000	P (t)	.001	P (z)	0.000
Debt ratio	-1.515		-.105		-.939	
(DEBT)	t *	-4.45	t *	-.15	Z	-1.89
	P (t)	0.000	P (t)	.882	P (z)	.058
Operating income volatility	1.856		5.59		4.83	
(OPIN)	t	.55	t *	1.80	Z	1.59
	P (t)	.579	P (t)	.073	P (z)	.112
Interaction term	-.305		-.687		.647	
(Interaction dummy)	t	-1.24	t *	-3.06	T	-3.13
	P (t)	.215	P (t)	.002	P (t)	.002
R	.1302		.0680		.1083	
F-Statistic	13.51		10.65		79.10	
Observations (n)	640		640		640	
Hausman test	31.15 (.0001)					

Table 4.4 shows that there is a significant positive relationship between dividend payout ratio and share price volatility at level of .076 in the case of 10% coefficient of interval. This relationship, therefore, is significant hence the results indicates that the global financial crisis affected the dividends paid to shareholders. The historical follow up of dividend payout ratio for most of firms including in the sample indicated that there has been a decrease in this level after the year 2008.

The financial crisis has an effect on dividend payout ratio, which indicates that there is asymmetric relationship between dividend payout ratio and share price volatility. Investors became more careful about their investment through investing in the firm that pays a high dividend payout ratio especially after financial crisis to satisfy their utility.

The results compatible with the clientele effect, which indicated that investors prefer the firms that pay a high dividend payout ratio in financial crisis in order to satisfy their utility, principally the investments generate a low return during the crises.

Hence, the first main hypothesis is accepted, Hence high dividend payout ratio in crises makes investors to invest in the firm that pays a high dividend payout ratio in order to satisfy their utility(i.e shift from one company to other).

4.3 Discussion

The t significance values for the study variables, which indicate that there is a significant relationship between some variables and the stock price volatility at level of 5%. This is because the significance for all the variables is less than 0.05 except for the study variables leverage and payout ratio, which is more than 0.05. The study results also show a F statistics value of 11.79 with the significance 0.000.

The study further tested the hypotheses, by using the results of fixed effect model. According to the results, the first main hypothesis is rejected (**H1**: There is no statistical significant relationship between the payout ratio and stock price volatility). For the second main hypothesis, this one is accepted (**H2**: There is a statistical significant relationship between Dividend yield and stock price volatility). For sub hypotheses all hypotheses such as " operating income, growth in assets and size" are accepted except the debt ratio, which the results indicate a significant relationship between "operating income volatility, growth in assets, size " and share price volatility. However, there is no significant relationship between debt ratio and share price volatility.

Chapter Five

Summary and Recommendations

5.1 Summary of Results

This part aims to summarizes all results that have been analyzed.

1- The dividend policy using dividend yield as proxy indicate the existence of significant relationship with share price volatility.

2- There is a positive relationship between dividend payout ratio and share prices volatility, thus the first main hypothesis is rejected, which the sample have selected from different stock exchanges that a located at the GCC stock exchanges.

3- The growth of the firm is related to dividend payout, the firm growth is negatively correlated with dividends and positively correlated with retained earnings.

4- There is a significant relationship between operating income volatility and share prices volatility, thus the first main sub hypothesis is accepted. The results show the market reaction when there is a volatility of operating income.

5- There is a significant relationship between growth in assets and share price volatility, thus the second sub hypothesis is accepted, which the firm finance its investments by retained earnings.

6- There is a significant relationship between firm size and share prices volatility, thus the third sub hypothesis is accepted, which the large firms have a stable cash flow and the firm that has not a ownership sturcture used the dividend as signaling tool.

7- There is a positive relationship between debt ratio and share prices volatility, thus the fourth sub hypothesis is rejected, which the debt used as signaling tool and used to solve the agency problem.

8- The financial crisis affected the dividend policy that is followed by the firm listed at the GCC stock exchanges because using the it term, which indicates a significant, this could indicate prefer by investors in order to satisfy their utilities, which the study supports the clientele effect and bird in the hand.

5.2 Recommendations

Following the results, the study makes the following recommendations :

1- Management of corporation should pay attention to dividend policy because of the study reveals an existence of relationship between dividend yield and stock price volatility and in order to help stabilizing stock price.

2- The GCC governments should design policies to support growth and increase the control on real estate sector, as the international financial crisis is principally attributed to collapse of the real estate sector.

3- The GCC governments must support the small and medium firms to face any future financial crisis to help them follow stable dividend policy and investment decisions.

4- With a positive relationship between dividend payout ratio and share price volatility, the firms may have an agency cost and asymmetric information.

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